APC®

Legendary Reliability℠

Server and Network Power Solutions

Smart-UPS®

Performance power protection
for servers and networks

Reliability

Line-interactive design

Sine wave output -premium, safe power

Network-grade line conditioning

Auto self-test

Interface communications port

Lightning/surge protection

ASIC's technology

Availability

SmartBoost™ brownout protection

SmartTrim™ overvoltage protection

CellGuard™ intelligent battery management

Battery replacement warning

Quick swap™ hot-swappable batteries

Redundant Switch for mirrored UPS power protection

ProtectNet for network surge protection

SmartSlot™ Accessories

Manageability

PowerChute® plus software included

Software configurable features

Built-in SmartSlot for accessory cards

SNMP ready for servers with Power Net SNMP Agent

Load, power and voltage meters

Audible alarms

Warranty & Approvals

2 year warranty

VDE certified, CE certified, FCC Class B compliance

Novell labs approved

Global Service Programs

Quick Start Plan - for highest level of fail-safe power management

Start-up Service

On-site support service

Power plan extended warranty

See specification tables for model details.

Contents

New for 2000

Windows® 2000 Ready

APC Smart-UPS provides the best "out-of-box" integration for "built-in" UPS shutdown in Microsoft Windows 2000. The co-development of Windows native UPS shutdown reiterates APC and Microsoft's® commitment to reliability in today's enterprise computing environments. APC continues to deliver innovative and convenient UPS management solutions to improve customers' productivity.

2U Smart-UPS Rack-mount Solutions

APC Smart-UPS Rack-mount 700, 1000, and 1400 provide longer runtime on battery, a faster and easier replacement battery chassis tray, improved voltage regulation, and enhanced intelligent battery management, all in a smaller 2U (89mm) form factor. *Page 8-9*

Smart-UPS 5000

Introducing the first dual slot-equipped, 5kVA UPS offered with APC's Web/SNMP Management Card (AP9606) pre-installed. The SU5000RMI5U has a form factor less than 50% of the size of similar 5kVA rack-mount systems. *Page 6, 8*

Redundant Switch

This Smart-UPS accessory offers 7x24 AC power and continuous availability of safe server shutdown via a mirrored configuration . *Page 14-15*

Web/SNMP Management Card

UPS network interface card for network administrators that provides standards-based management of UPSs in rack, computer room, and datacenter environments. *Page 13*

PowerChute *plus* Web Device Manager

PowerChute® *plus* Web Device Manager™ allows UPS monitoring utilising a web browser. *Page 16-17*

For more information, visit APC's Web site at www.apcc.com *or call your local APC office*

Complete Power Protection

Reliability—Availability—Manageability:

three essential requirements when choosing power protection for your systems.

Reliability—The UPS design consistently delivers dependable performance through a combination of form, function, and features. Your hardware is protected and your system life extended through features such as full-time multi-stage surge suppression and noise filtering, network-grade line conditioning, proactive notification of the unit's health, and automatic shutdown during extended outages.

Availability—The UPS provides reliable power minimising downtime. Availability increases when: the unit can operate through a greater range of input voltage; the batteries are easily accessible and user-serviceable providing zero downtime; and the unit provides information to automatically take necessary actions to keep systems available. Availability is increased and downtime decreased by adding accessories which enhance network performance by: rebooting hung devices; initiating shutdowns in abnormal environmental conditions; and providing notification of such actions.

Manageability—The UPS's control and status are available both in-band and out-of-band, allowing as much or as little control as desired. The degree of Manageability is directly related to users' customised parameters and notifications, through hardware and software features. Manageability is critical to the overall performance of the network and attached equipment.

Requiring **Reliability**, **Availability** and **Manageability** ensures that your power protection solution is dependable, accessible and flexible, minimising downtime, saving time and money, and increasing overall customer satisfaction.

Reliability

Line-interactive design delivers unmatched performance and reliability

Innovative line-interactive design uses the DC to AC power inverter "in reverse," like a battery charger, during normal operation providing greater performance and efficiency.

Sine-wave output

APC Smart-UPS sine-wave output provides assurance of compatibility with all loads.
(Does not apply to SU420INET/SU620INET models)

Network-grade line conditioning prevents glitches

Full time EMI/RFI filters prevent line noise from causing data errors. Smart-UPS meets Novell and Microsoft's approval for network protection, without the need for additional external conditioners.

Lightning and surge protection shields hardware

When measured via ANSI/IEEE 587 Category "A" and "B" tests, the suppression performance of the APC Smart-UPS is superior to virtually all separate surge suppressors.

Pre-failure diagnostics

Smart-UPS continuously monitors its health and proactively informs you of the results via Web, SNMP, E-mail or paging.

Auto self-test

All APC Smart-UPS initiate a self-test at power-on and every 2 weeks, at the push of a button, or pre-determined times using software. This ensures that you will be alerted to degraded batteries before they wear out.

Graceful, unattended shutdown

In the event of an extended power outage, an APC Smart-UPS will interface with PowerChute *plus* via the serial port to perform automatic safe shutdown of the attached system. Power failures can occur at night, on weekends, or while the system administrator is out of the building, which makes automatic safe shutdown critical. Smart-UPS provides extensive unattended safe shutdown of many operating systems when the UPS runs out of battery power, including Microsoft Windows 95/98, Windows NT/2000, Novell NetWare, SCO Unix, Red Hat, SuSE, Caldera, and TurboLinux (other OSs available separately). By using PowerChute *plus* software you can manage and diagnose power problems.

- **Safely shutdown a single server via serial cable**
  The Smart-UPS communications port provides the coordination of a safe shutdown with most popular operating systems by Microsoft, Novell, HP, IBM, Sun, SCO, Linux, and others.

- **Safely shut down multiple servers via serial cable**
  APC has several solutions to shut down multiple servers. The 2-Port Interface Expander Card (AP9607) provides two additional ports. The 8-Port Interface Expander (AP9207) provides a total of eight ports and can be daisy-chained to provide 15 ports. Both accessories facilitate graceful system shutdown via dependable hardwire connections and allow advanced UPS management. The units are ideal for "server farms" or multiple operating system environments.

- **Safely shutdown multiple servers via network connection**
  APC PowerChute network shutdown software communicates across the network with Smart-UPS equipped with APC Web/SNMP card to provide reliable, graceful unattended shutdown of multiple computer systems over the network.
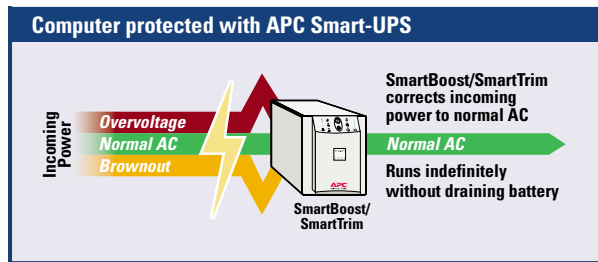
Availability

Automatic Voltage Regulation

SmartBoost™ automatically corrects brownout conditions
Allows you to work through brownouts without unnecessary battery drain. SmartBoost automatically steps up low voltage to safe output levels.

SmartTrim™ automatically corrects overvoltage conditions
Allows you to work through overvoltages without unnecessary battery drain. SmartTrim automatically steps down high voltage to safe output levels.

Computer protected with APC Smart-UPS

Incoming Power — Overvoltage / Normal AC / Brownout

SmartBoost/ SmartTrim

SmartBoost/SmartTrim corrects incoming power to normal AC

Normal AC

Runs indefinitely without draining battery

Intelligent Battery Management

CellGuard means longer battery life
Improved reliability results from a precision battery charging system, and automatic true-load battery tests. Redundant overcharge protection contributes to longer battery life. SmartBoost™ and SmartTrim™ regulate under- and overvoltages without switching to battery.

Battery Replacement Warning prevents downtime
APC Smart-UPS automatically performs a self-test every two weeks. This ensures you will be alerted to degraded batteries before they wear out. Through software, or the push of a button, you may perform self-tests anytime.

Faster Recharge Time
APC Smart-UPS battery changing system is microprocessor controlled to precisely charge batteries in less time than legacy UPS systems. This makes your system available more quickly for subsequent power disturbances.

APC Smart-UPS cut battery recharge time by 75%

APC Smart-UPS battery recharge time of 2-3 hours

Typical UPS battery recharge time of 8-16 hours
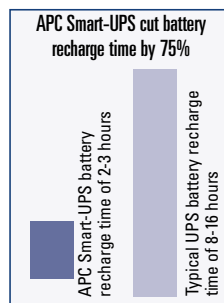
QuickSwap™

The 60 second, user friendly, hot-swappable battery replacement system
Saves the time and expense of returning the UPS to the factory for battery service, and allows safe and easy replacement of batteries while your system is up and running.

Prevent Downtime

Predict failures
By periodically conducting self-tests and other diagnostics, Smart-UPS can warn you of failures before they happen. For example, Smart-UPS will proactively notify you 6-8 weeks in advance of a battery replacement.

Deliver diagnostic data
Smart-UPS constantly monitors its health and delivers the results via Web, SNMP, E-mail, or paging.

Take Action
Built into Smart-UPS is the ability to take the necessary actions to reboot "hung" devices, giving you availability when you need it most.

- Reboot hung servers and networking equipment remotely via modem
- Reboot hung servers via Web, SNMP, or Telnet
- Monitor temperature, humidity and rack security

Accessories Increase Availability
By adding APC accessory cards into the built-in SmartSlot™, you can monitor power conditions and take action. The addition of the accessory cards increases overall system availability by proactively notifying you of conditions that could affect uptime. *(Accessories sold separately and detailed on p. 13.)*

Redundant Switch
Redundant Switch continuously monitors two AC circuits and automatically switches from the primary to the redundant power source, increasing overall system availability. *(See p. 14 for more information.)*

ProtectNet™
ProtectNet increases the availability of your systems by protecting your wiring and cabling from "back-door" surges and spikes, which cause system downtime and equipment damage. *(For more information, visit www.apcc.com/products/protectnet)*

Manageability

Informative LED Display provides status at a glance

Instantly assess the status of your power and the APC Smart-UPS without even pushing a button. Bar meters and status indicators are simple to use and easy to understand. Visible and audible alarms alert you to fault conditions.

Load, Power and Volt Meters keep you in control

The Load Meter* prevents you from exceeding UPS capacity. The Volt Meter* reports utility line voltage and battery capacity, allowing you to gauge how much time you have before batteries are depleted. An alarm sounds when batteries are low, allowing you time to save data and shutdown the system.

These features are not available on the SU420 INET/620INET models.

Alarms

Audible alarms alert you to changes in operating environment and battery conditions. Some alarms are software configurable and most can also be suppressed or delayed to eliminate nuisance alarms.

a **Load Display*-** Shows the power being drawn by the load and prevents you from exceeding capacity.

b **SmartTrim LED*-** LED lights when the UPS is correcting a high utility voltage condition.

c **On-line LED-** LED lights when the UPS is supplying utility power to the loads.

d **SmartBoost LED*-** LED lights when the UPS is correcting a low utility voltage condition.

e **On/Test Button-** Turns on the UPS and activates the UPS self-test and utility line voltage displays.

f **Off Button-** Turns off the UPS and the load. Specifically designed to prevent accidental shutdowns.

g **Overload LED-** LED lights and alarm sounds when the load connected to the UPS exceeds capacity.

h **On-Battery LED-** LED lights and alarm sounds when the UPS is supplying battery power to the load.

i **Replace Battery LED-** LED lights and alarm sounds when the UPS battery is nearly dead and must be replaced (typically within 30 days.)

j **Battery Charge/Line Voltage Display*-** Displays both present battery charge as a percentage of battery capacity and utility line voltage. Alarm sounds upon low battery condition.

These features are not available on the SU420INET/620INET models.

PowerChute *plus* power management software included

Meets the demands of high performance networks and enhances the reliability and manageability of network and web servers.

Browser Manageable

The Smart-UPS is easily manageable through standard browsers on local computers, networked computers or remote systems. (Requires PowerChute Web Device Manager running on a Windows NT/2000 web server on your network. See *www.apcc.com* for a free download.)

E-mail and Pager Alerts

APC Smart-UPS E-mails and/or pages you via PowerChute *plus* alerting you of power problems and allowing you to respond in order to maximise uptime.

Integrates with Server and Enterprise Management

All Smart-UPS are shipped with support for Dell Network/Node Manager, Compaq Insight Manager (Windows NT and Novell NetWare), HP TopTools and IBM NetFinity, and plug-ins for HP Openview, CA Unicenter, and Tivoli Netview.

Built-in SmartSlot gives you the customisable performance you need

APC Smart-UPS are equipped with a built-in SmartSlot* allowing you to implement various UPS Accessory cards to customise and enhance the management of your APC Smart-UPS. APC's series of UPS accessories plug directly into the back of your UPS. When an APC accessory is installed in your UPS, it becomes an integral part of the unit, drawing power from the UPS even when the UPS is in "sleep mode." Optional accessories allow you to remotely reboot individual devices, monitor ambient temperature and humidity and work with Emergency Power-Off (EPO) systems. *(Accessories detailed on page 13)*

(* Option not available on SU420INET/SU620INET models)

Smart-UPS® Tower Series

Superior design, high volume manufacturing and continuous quality enhancement allow APC Smart-UPS to feature unsurpassed reliability.

**NEW
Smart-UPS 5000**
for high-powered and multi-server environments

XIOtech Partners with APC to Provide High Availability Storage Solutions

XIOtech manufactures a centralised, intelligent shared storage subsystem touted by industry experts as 'SAN (storage area networking) in a box'. We call it the Magnitude and it is capable of processing speeds in excess of 90,000 I/Os a second, which is 10 times faster than traditional enterprise RAID systems. Customers who purchase these products require rapid and continuous access to data.

Data access is critical to our customers. Our customers look to us to solve any challenges that might cause them to lose access to their data, including data path failure, drive failure, corrupt data tables, user error, adding storage, zero-backup window and power problems. We can't assume anything. We recognise that a corporation's data is the lifeblood of the company. Losing data means losing crucial competitive advantage.
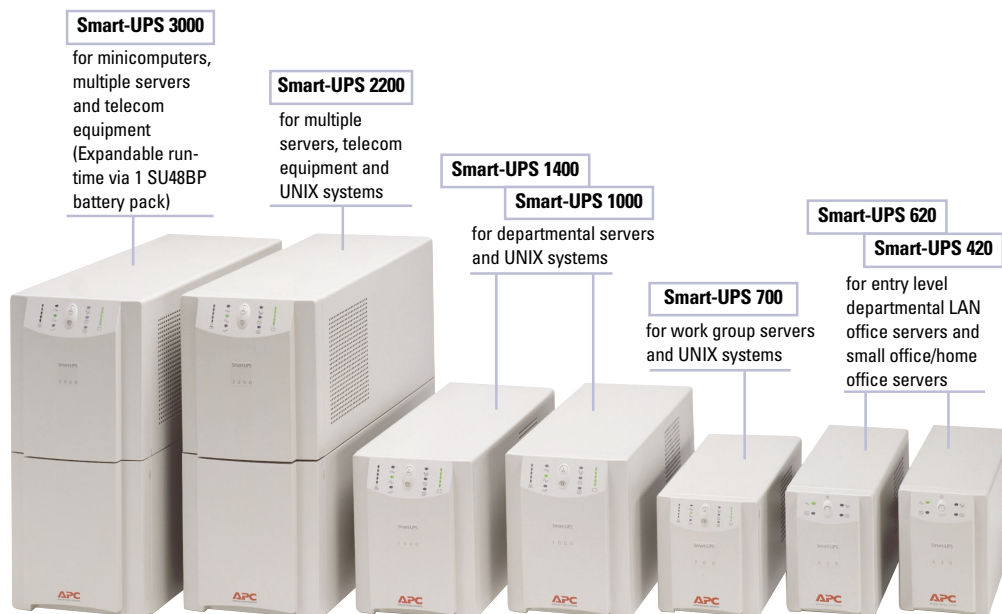
Since power problems are one of the leading causes of downtime, we decided from the beginning to include the APC Smart-UPS® 2200 as part of the standard configuration of our Magnitude product. As an award-winning REDI (Remarkable Efficient Device I/O) Storage Architecture device, the Magnitude allows users to connect their most critical systems to a high-availability, centralised storage sub-system. We have users accessing multiple terabytes of data from NT and NetWare servers.

Today, as many as eight Intel servers can all share the same storage. In fact, this quarter we will announce connectivity support for hundreds of servers connected to the same storage subsystem, all powered by the APC Smart-UPS. We have installations in large financial organisations, pre-press companies, education, government, and hospitals, and they all rely on APC.

*Dan McCormick
Director of Product
Management
XIOtech*

Smart-UPS 3000
for minicomputers, multiple servers and telecom equipment (Expandable run-time via 1 SU48BP battery pack)

Smart-UPS 2200
for multiple servers, telecom equipment and UNIX systems

Smart-UPS 1400

Smart-UPS 1000
for departmental servers and UNIX systems

Smart-UPS 700
for work group servers and UNIX systems

Smart-UPS 620

Smart-UPS 420
for entry level departmental LAN office servers and small office/home office servers

APC Smart-UPS ships with PowerChute plus software for Windows NT, Novell NetWare, Windows 95/98, SCO Unixware, and SCO OpenServer. Includes PowerNet SNMP Agent Plug-in for Windows NT, Compaq Insight Manager (Windows NT and NetWare), HP TopTools, and IBM NetFinity Manager.

SPECIFICATION	SU420INET	SU620INET	SU700INET	SU1000INET	SU1400INET	SU2200INET	SU3000INET	SU5000I
Ships with PowerChute *plus* software	Support for Windows NT, Novell NetWare, Windows 95/98, SCO UnixWare and SCO Open Server. Includes SNMP Agent Plug-ins for Compaq Insight Manager, HP Top Tools and, IBM NetFinity Manager.							
Input Line	IEC320 C14 (10AMP)					IEC320 C20 (16AMP)*		Hardwire
Output Receptacles (IEC320 C13)	4	4	4	4	4	8 IEC320 C13 (10AMP) + 1 IEC320 C19 (16AMP)		8 IEC320-C13 2 IEC320-C19
Number of SmartSlot bays	n/a	n/a	1	1	1	1	1	2
Maximum Dimensions (H x W x D)	168 x 119 x 368mm	168 x 119 x 368mm	157 x 137 x 358mm	216 x 170 x 439mm	216 x 170 x 439mm	432 x 196 x 546mm	432 x 196 x 546mm	439 x 229 x 665mm
Net Weight	9.1 kg	12.3 kg	13.2 kg	18.8 kg	24.1 kg	50.8 kg	55.8 kg	95.3 kg
Shipping Weight	10 kg	13.2 kg	14.5 kg	20.8 kg	26.3 kg	60.8 kg	64.5 kg	104.4 kg
"T" Level for Service Options	T1	T1	T2	T2	T3	T4	T4	T5

OPERATION	SU420INET	SU620INET	SU700INET	SU1000INET	SU1400INET	SU2200INET	SU3000INET	SU5000I
Nominal Input Voltage	230 Vac, single phase, 50 or 60 Hz (auto-selectable)							
Transfer Time (typical)	2 milliseconds, includes detection time							
On-Battery Output Voltage	Stepped sine wave output		Pure sine wave output at 230 Vac +/-5%, -10% after low battery warning, synchronized to utility line					
SmartBoost and SmartTrim Operation**	On-line operation for input between 176 to 282 Vac. Output will be 196 to 253 Vac. SmartBoost increases voltage 12% if input is 176 to 196 Vac. SmartTrim reduces voltage 12% if input is 253 to 282 Vac. Transfer points are user adjustable using software.							
Capacity (Volt-Amps, Watts)	420, 260	620, 390	700, 450	1000, 670	1400, 950	2200, 1600	3000, 2250	5000, 3750
Surge energy rating, peak current capability	320 Joules		480 Joules, 6.5kA					
Normal, common mode clamping response time	0 ns, <5ns typical							
Normal mode surge voltage let through (IEEE 587 Cat. A 6kV test)	<0.7% of peak typical			<0.3% of peak typical				
Batteries	Sealed, maintenance-free lead acid with 3-6 year typical lifetime.							
Recharge time to 90% capacity	4.5 hours			2 hours				3 hours
Ambient Operation	3,000 meters max. elevation, 0-95% humidity non-condensing 0-40 deg. C							
Storage Conditions	15,000 meters max. -15-45 deg. C							
Audible noise at 1 meter from surface of unit	<45 dBA	<45 dBA	<41 dBA	<41 dBA	<45 dBA	<45 dBA	<53 dBA	< 47 dBA
BTUs (hr.)	50	70	85	100	135	275	375	430

TYPICAL RUNTIME

LOAD Watts	(VA)	SU420INET	SU620INET	SU700INET	SU1000INET	SU1400INET	SU2200INET	SU3000INET⌐ (w/ SU48BP)	SU5000I
65	100	40min	1hr 14min	1hr 35min	2hr 25min	3hr 55min	7hr 5min	7h 10m (11h 9m)	9hr 27min
130	200	14min	30min	43min	1hr 14min	2hr 7min	4hr 15min	4h 20m (7h 41m)	6hr 17min
195	300	6min	15min	23min	46min	1hr 22min	2hr 58min	3h 3m (5h 36m)	4hr 39min
260	400	-	9min	14min	30min	58min	2hr 14min	2h 19m (4h 44m)	3hr 38min
325	500	-	6min	9min	21min	43min	1hr 45min	1h 50m (3h 50m)	2hr 58min
390	600	-	-	6min	15min	33min	1hr 25min	1h 29m (3h 18m)	2hr 29min
455	700	-	-	-	11min	26min	1hr 10min	1h 14m (2h 53m)	2hr 7min
520	800	-	-	-	9min	21min	1hr	1h 4m (3h 15m)	1hr 50min
585	900	-	-	-	7min	17min	51min	53m (2h 4m)	1hr 36min
650	1000	-	-	-	6min	14min	44min	46m (1h 47m)	1hr 25min
780	1200	-	-	-	-	9min	34min	37m (1h 31m)	1hr 8min
910	1400	-	-	-	-	7min	26min	28m (1h 15m)	56min
1040	1600	-	-	-	-	-	21min	22m (57m)	47min
1300	2000	-	-	-	-	-	14min	15m (37m)	34min
1430	2200	-	-	-	-	-	11min	12m (27m)	29min
1625	2500	-	-	-	-	-	-	5m (13m)	23min
1950	3000	-	-	-	-	-	-	-	17min
3500	5000	-	-	-	-	-	-	-	6min

* Ships with (2) detachable 8 ft. input power cords; (1) CEE7/7 and (1) BS1363.

** SU420INET and SU620INET provide SmartBoost capability up to 30% of input voltage.

⌐ Additional battery pack available for extra runtime.

Note: For the most recent sizing information, consult the Size-UPS section of APC's Web Site at *www.apcc.com/sizing.*

Smart-UPS® Rack-mount Series

APC's slimline rack-mount Smart-UPS delivers premium uninterruptible power and the most advanced performance features available.

Offered in a broad range of VA ratings, designed to address a variety of network equipment configurations, Smart-UPS RMs are easy to install and are compatible with all popular rack systems, including the Compaq server rack.

With an advanced line-interactive design, PowerChute *plus* power management support for major network OSs, (including Windows NT and Novell Netware), and PowerNet SNMP support for Novell NMS, Compaq's Insight Manager, and other SNMP based NMSs, it's not surprising that APC UPSs protect more networks than all other UPS brands combined.

Smart-UPS RMs are equipped with a SmartSlot internal accessory slot to provide Web/SNMP management, control via modem or multi-OS shutdown with the addition of the appropriate card.

New!

APC Smart-UPS Rack-mount 700, 1000, and 1400 are for protection of servers, internetworking equipment, and PBX telecom systems. These Smart-UPS rack-mount units are only 2U (89mm) in height allowing more room to rack-mount other critical equipment. With longer runtime on battery, a faster and easier replacement battery chassis tray, improved voltage regulation, enhanced intelligent battery management, and a competitive price, the Smart-UPS 2U Rack-mount will be an excellent addition to your power protection solution.

For VA requirements between 250 and 450VA, the PowerStack™ family (PS250/PS450) is ideally suited to meet your growing rack, stack or wall mounting requirements. The PowerStack was designed to protect unmanaged hubs, switches, small routers, and small telephone key systems, all of which are often housed in remote wiring closets. PowerStack is 1U high, comes with four power outlets and has user replaceable, hot-swappable batteries. *(See www.apcc.com/products/smart-ups_rm/index.cfm for more information and technical specs on the PowerStack family.)*

APC Smart-UPS RMs protect your data
Your data is protected because Smart-UPS RMs supply network-grade battery backup when power fails. With PowerChute *plus* software or monitoring kits, APC Smart-UPS RMs will safely save your data and shut down your operating system before the battery is fully discharged, whether you're there or not.

APC Smart-UPS RMs protect your hardware
System life is extended through superior full-time multi-stage surge suppression and noise filtering. Novell approves this product for network protection, without additional external conditioners.

APC Smart-UPS RMs increase your overall system availability
SmartBoost™ and SmartTrim™ automatically correct low voltage and high voltage conditions allowing you to work through brownouts and overvoltages without using battery power.

APC Smart-UPS RMs reduce your cost
Smart-UPS RMs reduce your cost by decreasing downtime, and giving users increased control and power management. Users can further reduce costs with Smart-UPS RM user replaceable, hot-swappable batteries. Within minutes, a user can swap out a factory supplied battery while the load is still up and running, eliminating unnecessary service costs and downtime. (Typical battery life is three to six years.)

NEW! Smart-UPS 5000 (SU5000I and SU5000RMI5U - 5kVA UPS)

The Smart-UPS 5000 is the first UPS offered with APC's Web/SNMP management card (AP9606) pre-installed. This product allows you to easily monitor and control your SU5000 over the World Wide Web or your network. In addition, the SU5000RMI5U has the most compact form factor of any 5 kVA rack-mount systems.

Smart-UPS 5000RMI5U

Ships with Web/SNMP Management Card pre-installed through April 1, 2000

APC Web/SNMP Management Card

SPECIFICATION	SU700RMI2U	SU1000RMI2U	SU1400RMI2U	SU2200RMI3U	SU3000RMI3U	SU3000RMINET(5U)	SU5000RMI5U
Ships with PowerChute *plus* and network management software	Support for Windows NT, Novell NetWare, Windows 95/98, SCO UnixWare and SCO Open Server. Includes SNMP Agent Plug-ins for Compaq Insight Manager, HP Top Tools and, IBM NetFinity Manager.						
Input Line		IEC320 C14 (10AMP)		IEC320 C20 (16AMP)*			Hardwire
Output Receptacles (IEC320 C13)	4	4	4	8 IEC320 C13 (10AMP) +1 IEC320 C19 (16AMP)			8 IEC320 C13 2 IEC320 C19
Number of SmartSlot bays	1	1	1	1	1	1	2
Unit Height ("U" Height)	2U	2U	2U	3U	3U	5U	5U
Maximum Dimensions (H x W x D)	89 x 483 x 469mm	89 x 483 x 469mm	89 x 483 x 469mm	132 x 483 x 710mm	132 x 483 x 710mm	222 x 483 x 451mm	432 x 196 x 622mm
Net Weight	21.8 kg	28.1 kg	28.6 kg	51 kg	51.3 kg	57.2 kg	93 kg
Shipping Weight	25.1 kg	31.4 kg	31.9 kg	59.8 kg	60.2 kg	65.8 kg	107 kg
"T" Level for Service Options	T2	T3	T3	T4	T4	T4	T5

OPERATION	SU700RMI2U	SU1000RMI2U	SU1400RMI2U	SU2200RMI3U	SU3000RMI3U	SU3000RMINET(5U)	SU5000RMI5U
Nominal Input Voltage	230 Vac, single phase, 50 or 60 Hz (auto-selectable)						
Transfer Time (typical)	2 milliseconds, includes detection time						
On-Battery Output Voltage	Pure sine wave output at 230 Vac +/-5%, -10% after low battery warning, synchronized to utility line						
SmartBoost and SmartTrim Operation**	On-line operation for input between 176 to 282 Vac. Output will be 196 to 253 Vac. SmartBoost increases voltage 12% if input is 176 to 196 Vac. SmartTrim reduces voltage 12% if input is 253 to 282 Vac. Transfer points are user adjustable using software.						
Capacity (Volt-Amps, Watts)	700, 450	1000, 670	1400, 950	2200, 1600	3000, 2250	3000, 2250	5000, 3750
Surge energy rating, peak current capability	480 Joules, 6.5kA						
Normal, common mode clamping response time	0 ns, <5ns typical						
Normal mode surge voltage let through (IEEE 587 Cat. A 6kV test)	<0.3% of peak typical						
Batteries	Sealed, maintenance-free lead acid with a 3-6 year typical lifetime.						
Recharge time to 90% capacity	2 hours						3 hours
Ambient Operation	3,000 meters max. elevation, 0-95% humidity non-condensing 0-40 deg. C						
Storage Conditions	15,000 meters max. -15-45 deg. C						
Audible noise at 1 meter from surface of unit	<36 dBA	<36 dBA	<46 dBA	<47 dBA	<47 dBA	<47 dBA	<47 dBA
BTUs/hr.	68	89	171	275	375	375	430

TYPICAL RUNTIME

LOAD Watts	(VA)	SU700RMI2U	SU1000RMI2U	SU1400RMI2U	SU2200RMI3U	SU3000RMI3U	SU3000RMINET(5U)◻ (w/ SU48BP) *	SU5000RMI5U
65	100	1hr 35min	3hr 10min	4hr 10min	5hr 47min	5hr 52min	7hr 10min (11hr 7min)	9hr 27min
130	200	43min	1hr 41min	2hr 16min	3hr 26min	3hr 31min	4hr 20min (7hr 41min)	6hr 17min
195	300	23min	1hr 4min	1hr 28min	2hr 22 min	2hr 27min	3hr 3min (5hr 36min)	4hr 39min
260	400	14min	44min	1hr 3min	1hr 46min	1hr 50min	2hr 19min (4hr 44min)	3hr 38min
325	500	9min	32min	47min	1hr 22min	1hr 26min	1hr 50min (3hr 50min)	2hr 58min
390	600	6min	24min	36min	1hr 6min	1hr 10min	1hr 29min (3hr 18min)	2hr 29min
455	700	-	18min	28min	54min	58min	1hr 14min (2hr 53min)	2hr 7min
520	800	-	14min	23min	45min	44min	1hr 4min (2hr 15min)	1hr 50min
585	900	-	11min	18min	38min	41min	53min (2hr 4min)	1hr 36min
650	1000	-	9min	15min	33min	36min	46min (1hr 47min)	1hr 25min
780	1200	-	-	11min	24min	26min	37min (1hr 31min)	1hr 8min
910	1400	-	-	8min	19min	21min	28min (1hr 15min)	56min
1040	1600	-	-	-	14min	16min	22min (57min)	47min
1300	2000	-	-	-	9min	10min	15min (37min)	34min
1430	2200	-	-	-	8min	9min	12min (27min)	29min
1625	2500	-	-	-	-	5min	5min (13min)	23min
1950	3000	-	-	-	-	-	-	17min
3500	5000	-	-	-	-	-	-	6min

* Ships with (2) detachable 8 ft. input power cords; (1) CEE7/7 and (1) BS1363.
✻ In order to rack-mount this product you will need to purchase a SU035 Battery shelf.
◻ Additional battery pack available for extra runtime.
** For the SU700RMI2U, SU1000RMI2U, SU1400RMI2U: On-line operation for input between 160 to 286 Vac yields an output of 196 to 253 Vac. Voltage boost increases the voltage up to 30%.

Note: For the most recent sizing information, consult the Size-UPS section of APC's Web Site at *www.apcc.com/sizing*

Smart-UPS® XL and RMXL

Acceptable Availability	99.99%	99.999%
Required Run-time	>5 minutes	>1 hour
Suggested UPS	Smart-UPS	Smart-UPS XL or RMXL

Expandable, extended run power

APC's Smart-UPS XL is ideal for mission critical applications where long runtimes are essential. Example applications include telephone PBXs, order entry data base servers, computers supporting manufacturing or service operations and critical data communications links. The XL allows a business to survive a prolonged power outage. With the Smart-UPS XL, runtime can be added by simply plugging in additional battery packs (see page 11).

Cost-effective solution

In many cases, extended-run capability is achieved by over-sizing the UPS itself. For example, in applications where the load capacity must be at least 900VA, this would usually mean a much more expensive UPS rated for 3000VA. An oversized UPS solution requires the installation of special building wiring which can cost well over $1000 (often as much as the UPS itself).

APC Smart-UPS XLs increase your productivity

SmartBoost™ and SmartTrim™ automatically correct low voltage and high voltage conditions allowing you to work through brownouts and overvoltages without using battery power.

APC Smart-UPS XLs have the most advanced performance features available

CellGuard intelligent battery management improves reliability and extends battery life. SmartSlot™ internal accessory slot allows you to install optional accessory cards to customise and enhance the performance management of your APC Smart-UPS. PowerChute® *plus* software provides extensive UPS power management and diagnostics. Also, the QuickSwap™ user-replaceable battery system allows you to hot-swap batteries on site, while the system is up and running.

Low cost shipping and installation

Some extended run UPS systems must be shipped via special truck and unloaded on a special dock to handle the large size and weight of the UPS. In contrast, the modular design of the Smart-UPS XL and its batteries allow them to be delivered directly by common carrier.

APC Smart-UPS XL and RMXL families include units ranging from 700VA to 2200VA. Additional battery packs are available to increase system availability (see page 11).

SPECIFICATION	Tower Units			Rack-mount Units	
	SU700XLINET	SU1000XLINET	SU2200XLINET	SU1400RMXLINET	SU2200RMXLINET
Ships with PowerChute *plus* software	Support for Windows NT, Novell NetWare, Windows 95/98, SCO UnixWare and SCO Open Server. Includes SNMP Agent Plug-ins for Compaq Insight Manager, HP Top Tools and, IBM NetFinity Manager.				
Input Line - 1.8m line cord	IEC320 C14		IEC320 C20*	IEC320 C14	IEC320 C20*
Output Receptacles	4 IEC320 C13		8 IEC320 C13 and 1 IEC 320 C19	8 IEC 320 C13	8 IEC320 C13 and 1 IEC 320 C14
Number of SmartSlot bays	1	1	1	1	1
Maximum Dimensions (H x W x D)	216 x 170 x 439mm	216 x 170 x 439mm	432 x 196 x 546mm	222 x 483 x 451mm	222 x 483 x 451mm
Net Weight	24.1kg	27.2kg	54.9kg	52.2kg	56.2kg
Shipping Weight	26.3kg	29.5kg	63.6kg	60.8kg	64.4kg
"T" Level for Service Options	T3	T3	T4	T4	T4
OPERATION	SU700XLINET	SU1000XLINET	SU2200XLINET	SU1400RMXLINET	SU2200RMXLINET
Nominal Input Voltage	230 Vac, single phase, 50 or 60 Hz (auto-selectable)				
Transfer Time (typical)	2 milliseconds, includes detection time				
On-Battery Output Voltage	Pure sine wave output at 230 Vac +/-5%, -10% after low battery warning, synchronized to utility line				
SmartBoost and SmartTrim Operation	On-line operation for input between 176 to 282 Vac. Output will be 196 to 253 Vac. SmartBoost increases voltage 12% if input is 176 to 196 Vac. SmartTrim reduces voltage 12% if input is 253 to 282 Vac. Transfer points are user adjustable using software.				
Capacity (Volt-Amps, Watts)	700, 450	1000, 670	2200, 1600	1400, 950	2200, 1600
Surge energy rating, peak current capability	320 Joules, 6.5kA	480 Joules, 6.5kA			
Normal, common mode clamping response time	0 ns, <5ns typical				
Normal mode surge voltage let through (IEEE 587 Cat. A 6kV test)	<0.7% of peak typical	<0.3% of peak typical			
Batteries	Sealed, maintenance-free lead acid batteries with a 3-6 year typical lifetime.				
Ambient Operation	3,000 meters max. elevation, 0-95% humidity non-condensing 0-40 deg. C				
Storage Conditions	15,000 meters max. 15-45 deg. C				
Audible noise at 1 meter from surface of unit	<42 dBA	<42 dBA	<53 dBA	<45 dBA	<45 dBA
BTUs/hr.	100	120	305	155	155
BATTERY PACK OPTIONS	SU700XLINET	SU1000XLINET	SU2200XLINET	SU1400RMXLINET	SU2200RMXLINET
Extended runtime	SU24XLBP	SU48XLBP	SU48XLBP	SU48RMXLBP	SU48RMXLBP
Ultra-extended runtime	UXBP24	UXBP48	UXBP48	UXBP48	UXBP48

* Ships with (2) detachable 8 ft. input power cords; (1) CEE7/7 and (1) BS1363.

Smart-UPS® XL, RMXL and UX Battery Packs

Long battery life

By packaging the batteries in an enclosure separate from the UPS electronics, the batteries operate at reduced temperatures. Battery life is further enhanced through CellGuard™ intelligent battery management with high precision FastCharge™ and automatic true-load battery tests.

APC Smart-UPS XL increases your availability

Extended battery packs running in parallel with internal batteries provide both extended run-time. Smart-UPS XL battery Packs are hot-swappable so you never have to take down your mission-critical loads to service the unit. Novell approves this product for network protection, without additional external conditioners.

Fault tolerance

Redundant batteries increase Smart-UPS XLs fault-tolerance. This feature eliminates unit shutdown due to a single battery's failure.

Simple maintenance

A battery change usually requires trained service personnel or an expensive electrician. However, this is not the case with APC's Smart-UPS XL and RMXL. The Smart-UPS XL lets the user easily replace battery packs in minutes while the protected equipment remains up and running.

UXBP24 and UXBP48 Battery packs

The UXBP24 and UXBP48 are Ultra-extended run Battery Packs designed to be used with Smart-UPS products. The combination provides expandable and extended-run power protection for maximum up-time at an economical price. They are ideal for mission critical applications where ultra-long runtimes are essential. The UXBP24 and UXBP48 are 24V and 48V offerings, respectively.

UXBP24 and UXBP48 offer:

- **Low installation & servicing costs-** Polarised connectors ensure a safe and fast installation or replacement, eliminating the need for an electrician and expensive service contracts.

- **Space efficient-** Battery packs are designed to be stacked 4 high.

- **Flexible-** Battery packs can be used with either the Smart-UPS XL or Smart-UPS RMXL products.

Smart-UPS® XL, RMXL and UX Battery Packs

APC Smart-UPS with UX battery packs provide ultra-extended runtime for maximum uptime

	Battery Packs	
SPECIFICATION	**SU24XLBP/SU48XLBP**	**SU48RMXLBP***
Maximum Dimensions (H x W x D)	216 x 170 x 439mm	178 x 483 x 457mm
Net Weight	31.3kg	61.7kg
Shipping Weight	33.1kg	69.4kg
"T" Level for Service Options	T3	T4
OPERATION	**SU24XLBP/SU48XLBP**	**SU48RMXLBP***
Batteries	Sealed, maintenance-free lead acid batteries with a 3-6 year typical lifetime.	
Ambient Operation	3,000 meters max. elevation, 0-95% humidity non-condensing 0-40 deg. C	
Storage Conditions	15,000 meters max. -15-45 deg. C	

TYPICAL RUNTIME FOR SU700XLINET & SU1000XLINET (SU700XLINET & SU1000XLINET USE THE SU24XLBP)

LOAD WATTS	(VA)	SU700XLINET & SU1000XLINET	1 SU24XLBP	2 SU24XLBP	3 SU24XLBP	4 SU24XLBP	5 SU24XLBP	6 SU24XLBP	8 SU24XLBP
70	100	4hr 7min	13hr 10min	22hr 14min	31hr 18min	40hr 22min	49hr 26min	58hr 30min	78hr 46min
140	200	2hr 5min	7hr 10min	12hr 16min	17hr 22min	22hr 28min	27hr 34min	32hr 40min	44hr 4min
210	300	1hr 19min	4hr 50min	8hr 22min	11hr 55min	15hr 28min	19hr	22hr 33min	30hr 29min
280	400	55min	3hr 35min	6hr 17min	9hr	11hr 44min	14hr 27min	17hr 10min	23hr 15min
350	500	40min	2hr 48min	5hr	7hr 12min	9hr 24min	11hr 37min	13hr 49min	18hr 44min
280	600	30min	2hr 17min	4hr 7min	5hr 58min	7hr 49min	9hr 41min	11hr 32min	15hr 40min
490	700**	23min	1hr 50min	3hr 22min	4hr 55min	6hr 28min	8hr	9hr 33min	13hr 4min
560	800**	18min	1hr 34min	2hr 55min	4hr 17min	5hr 38min	7hr	8hr 21min	11hr 28min
630	900**	14min	1hr 22min	2hr 34min	3hr 47min	5hr 1min	6hr 14min	7hr 27min	10hr 12min

TYPICAL RUNTIME FOR THE SU2200XLINET, SU1400RMXLINET, & SU2200RMXLINET (SU2200XLINET USES THE SU48XLBP, THE SU1400RMXLINET & SU2200RMXLINET USE THE SU48RMXLBP)

LOAD WATTS	(VA)	SU1400RMXLINET, SU2200XLINET & SU2200RMXLINET	1 SU48XLBP	2 SU48XLBP or 1 SU48RMXLBP	3 SU48XLBP	4 SU48XLBP or 2 SU48RMXLBP	5 SU48XLBP	6 SU48XLBP or 3 SU48RMXLBP	8 SU48XLBP or 4 SU48RMXLBP
70	100	6hr 45min	13hr 51min	20hr 57min	28hr 2min	35hr 8min	42hr 14min	49hr 20min	65hr 11min
140	200	4hr	8hr 24min	12hr 49min	17hr 13min	21hr 38min	26hr 3min	30hr 27min	40hr 19min
210	300	2hr 46min	5hr 57min	9hr 9min	12hr 21min	15hr 33min	18hr 45min	21hr 57min	29hr 6min
280	400	2hr 3min	4hr 33min	7hr 4min	9hr 34min	12hr 5min	14hr 35min	17hr 6min	22hr 43min
350	500	1hr 36min	3hr 39min	5hr 43min	7hr 47min	9hr 50min	11hr 54min	13hr 53min	18hr 35min
420	600	1hr 18min	3hr 2min	4hr 46min	6hr 32min	8hr 17min	10hr 2min	11hr 47min	15hr 42min
490	700	1hr 4min	2hr 34min	4hr 5min	5hr 36min	7hr 8min	8hr 39min	10hr 10min	13hr 35min
560	800	54min	2hr 13min	3hr 33min	4hr 54min	6hr 14min	7hr 35min	8hr 56min	11hr 57min
630	900	46min	1hr 56min	3hr 8min	4hr 20min	5hr 32min	6hr 45min	7hr 57min	10hr 39min
700	1000	40min	1hr 42min	2hr 47min	3hr 53min	4hr 58min	6hr 4min	7hr 9min	9hr 36min
840	1200	30min	1hr 22min	2hr 16min	3hr 11min	4hr 6min	5hr 1min	5hr 56min	8hr
1120***	1600***	18min	56min	1hr 36min	2hr 18min	2hr 59min	3hr 41min	4hr 23min	5hr 57min
1400***	2000***	12min	41min	1hr 12min	1hr 46min	2hr 19min	2hr 52min	3hr 26min	4hr 42min
1540***	2200***	10min	35min	1hr 4min	1hr 34min	2hr 4min	2hr 35min	3hr 5min	4hr 14min

** SU1000XLINET only
***SU2200XLINET and SU2200RMXLINET only.
Note: For the most recent sizing information, consult the Size-UPS section of APC's Web Site at *www.apcc.com/sizing*.

Accessories – Managing Smart-UPS

Customise your power protection solution with UPS Accessories* from APC

Web/SNMP Management Card

Reboot hung servers via Web, SNMP, or Telnet

From your Network Management Station you may use the 10Base-T Ethernet Web/SNMP Management Card (AP9606) and/or Token Ring (AP9603) SNMP Card. Perform remote UPS shutdown, reboot, and other management and diagnostic functions.

### Integrate smoke or halon alarms, telephone switches and other dry contact closures

Add security to your UPS system with the Relay I/O Card (AP9610).

Monitor temperature, humidity and rack security

Smoke alarms and halon alarms can also be monitored with the Environmental Monitoring Card (AP9612TH) through the PowerChute *plus*, PowerNet SNMP or the Out-of-band Management Card interface. The alarm switch kit (AP9513) is designed to monitor and notify users (when used in conjunction with AP9612TH and the NetShelter® rack enclosure) if the NetShelter door has been breached.

Extended UPS monitoring

The Isolated Serial Extension Cable (ISEC) is designed to provide bulletproof monitoring of an APC UPS for extended distances up to 100 meters (AP9825).
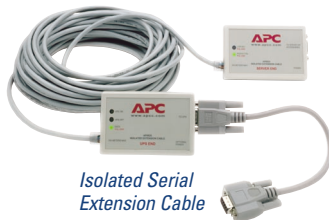
Isolated Serial Extension Cable

Reboot hung servers and networking equipment remotely via modem

The Out-of-band Management Card (AP9608) provides complete UPS information, paging on power problems and remote safe reboot of servers via user supplied modem.

Safely shutdown up to three servers

The 2-Port Interface Expander Card (AP9607) provides two additional ports to facilitate graceful system shutdown via serial connections and allows advanced UPS management. The unit is ideal for "server farms" or multiple operating system environments, since all three servers can be running different OSs.

Shutdown multiple servers from one UPS

Connect up to 8 completely OS-independent servers to a single UPS with Share-UPS™ (AP9207) 8-Port interface expander (15 servers with 2 Share-UPS). Share-UPS integrates with PowerChute *plus* software. Each server runs its own copy of PowerChute *plus* software, for monitoring and power management of the UPS.

Share-UPS 8 port interface expander

Integrate multiple accessories

The Triple Expansion Chassis (AP9604) is an external, 1U, 19" rack-mountable device that allows integration of additional UPS slot accessories with a Smart-UPS, Matrix, or Symmetra Power Array. Triple Expansion Chassis can be used in a rack environment or as a stand-alone device that allows you to add up to three (3) slot cards to UPSs that have an existing slot already in use.

Triple Expansion Chassis

MasterSwitch™ remote reboot device

The MasterSwitch (AP9210i) network power controller can easily reboot remote servers, internetworking equipment, or banks of modems to prevent on-site s ervice calls. The perfect complement to your High Availability solution, MasterSwitch gives you power distribution and complete, remote control of eight independent power channels to put an end to the frustration of locked-up servers and wasted management time.

APC MasterSwitch Power Controller

Remote Power-off Cable

The APC Remote Power-off Device (RPO) allows data center managers to turn off APC UPS output with a remote switch. When used in conjunction with an Emergency Power-Off (EPO) system, the RPO can turn off equipment in an emergency. (AP9830)
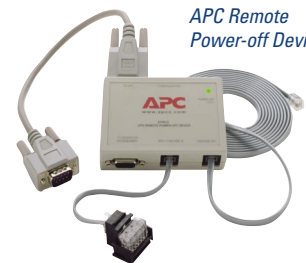
APC Remote Power-off Device
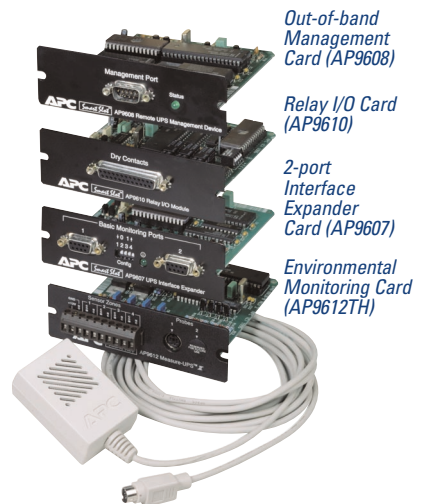
Out-of-band Management Card (AP9608)

Relay I/O Card (AP9610)

2-port Interface Expander Card (AP9607)

Environmental Monitoring Card (AP9612TH)

(*Note: APC accessory cards are designed to work with APC UPS products that have a SmartSlot bay. The SU420INET and SU620INET products do not have a SmartSlot bay.)

Redundant Switch for Smart-UPS

APC's Redundant Switch accessory products offer network managers a cost effective method for increasing AC power availability to network equipment

Mirrored UPS Protection

With dual input power cords, Redundant Switch has the ability to source power from one of two separate AC circuits. The Redundant Switch continuously monitors both AC circuits and will switch automatically from the primary to the redundant AC source. The transfer is seamless to the attached loads ensuring the availability of continuous AC power and safe server shutdown. Also, Redundant Switch provides user configurable settings for low voltage and AC line distortion in order to meet the variable power needs of your site.

The Redundant Switch can easily be installed in any 19″ equipment rack, occupying just 45mm or one U of rack space. Alternatively, it can be mounted in the rear or side of the rack, requiring zero U of valuable rack space. It ships with all appropriate rack mount hardware for two and four post racks.

Implementing Your Solution

Because its design is so flexible, there are numerous configurations for Redundant Switch providing different levels of availability. Three are outlined below: Good, Better, and Best.

Good:

AC Source "A"

AC Source "B"

Redundant Switch
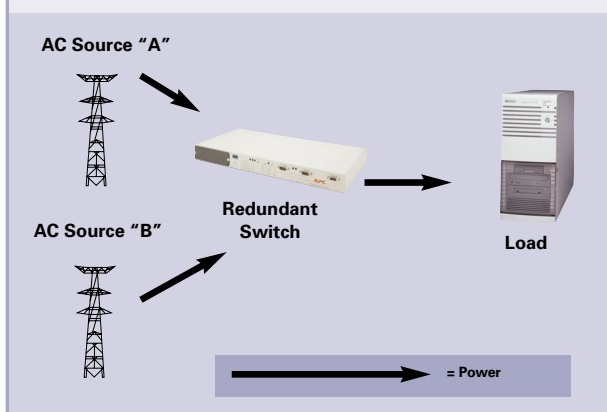
Load

= Power

In this application, the Redundant Switch is connected to two separate AC sources. Loads with a single or multiple power cords can now have N+1 power paths in case of a single AC source failure. The AC sources can originate at a centralized UPS, a generator set, or even separate utilities. *Protection:* This application protects against failure of one of the two AC sources; these problems can range from a tripped circuit breaker to a utility blackout to a centralized UPS failure.

Better:

AC Source "A"

Redundant Switch

AC Source "B"

Smart-UPS

Load

= Communications
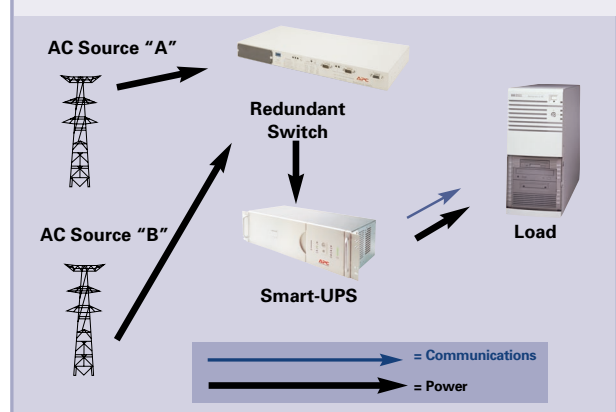
= Power

In this application, the Redundant Switch is connected to two separate AC sources. A single Smart-UPS is then connected to the Redundant Switch, thereby providing the Smart-UPS with dual AC input feeds. *Protection*: A Smart-UPS in the power path will provide full time surge suppression and utilise battery backup should both of the two AC sources fail. Smart-UPS protects against brownout, blackouts, and overvoltages that affect the entire distribution system. With a Smart-UPS, there is also graceful server shutdown, power monitoring, and power management.

Best:

AC Source "A" **Smart-UPS 'A'** **Redundant**

AC Source "B" **Smart-UPS 'B'**

Server

→ = Communications
→ = Power
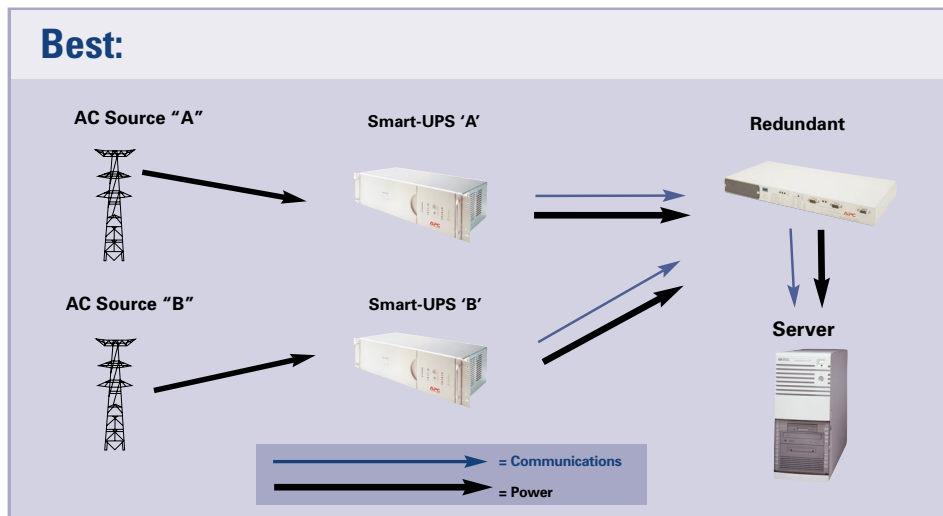
In this application, a Redundant Switch is used with two identical Smart-UPS and PowerChute *plus*. In networking environments where redundant drives, processors, and power supplies are commonplace, mirrored power protection configuration should be a major consideration. *Protection:* Both Smart-UPS will provide continuous EMI/RFI filtering and surge suppression. Battery backup is available in case of a primary or redundant AC source failure. In case of a severe power event, the redundant Smart-UPS will continue to support the load and also provide graceful shutdown to Windows NT, Novell and Solaris based operating systems. Power monitoring and management is available with PowerChute *plus* software and APC accessories. In this configuration, the Redundant Switch also has an Emergency Power Off (EPO) connector which allows the Smart-UPS to be switched off by a remotely operated EPO control. Such a configuration is common in computer rooms and laboratories where, for safety reasons, power to the loads may need to be disconnected.

Redundant Switch Configuration Table for "Best" Application

Redundant Switch Model	Voltage Rating	Power Rating of Load	Recommended Smart-UPS✦
SU043	230V	1400VA	(2) SU700, (2) SU1000, (2) SU1400
SU044-1	230V	3000VA	(2) SU2200, (2) SU3000

✦Note: Smart-UPS should be identical tower, rack-mount, extended run or rack-mount extended run models where applicable.

Specifications	SU043	SU044-1
Acceptable input voltage	230 VAC: 0 - 325 VAC	
Output voltage	230 VAC: 207 - 253 VAC (by default when used with Smart-UPS)	
Frequency limits (on-line operation)	50 or 60 Hz, ±5%	
Transfer time Normal Sensitivity	6ms, typical	
Maximum load	1400 VA 6 A	3000 VA 13 A
Operating temperature	0 to +50 ºC (+32 to +122 ºF)	
Storage temperature	-15 to +50 ºC (+5 to +122 ºF)	
Operating and storage relative humidity	0 to 95%, non-condensing	
Operating elevation	0 to +3,000 m (0 to +10,000 ft)	
Storage elevation	0 to +15,000 m (0 to +50,000 ft)	
Electromagnetic immunity	IEC 801-2, 801-3, 801-4	
Audible noise in dBA @ 1 m	<45	
Size (H x W x D)	4.45 x 43.2 x 19 cm	
Weight - net (shipping)	4.5 (6.8) kg	
Safety approvals	GS licensed by VDE to EN 50091 and 60950	
EMC verification	CISPR 22 Class A verified	
Power Inlet	2 IEC320/C14	2 IEC320/C20
Power Outlet	2 IEC320/C13	1 IEC320/C19, 2 IEC320/C13

Includes PowerChute® *plus* software for advanced UPS power management and diagnostics

APC Smart-UPS ship with APC's PowerChute® *plus* UPS power management and diagnostic software to provide network administrators with useful UPS information and great flexibility in configuring UPS reaction to power events. By tailoring each UPS to the network environment you can significantly enhance network performance and reliability. Use your APC Smart-UPS in conjunction with PowerChute *plus* for maximum, custom protection. In addition to extensive unattended system shutdown, you'll get UPS testing/status, remote UPS management and environmental/power monitoring. (PowerChute *plus* support for Novell NetWare, Windows, Windows 95/98, Windows NT, Windows for Workgroups and SCO Unix included. PowerChute *plus* for use with other operating systems sold separately. Visit our website at *www.apcc.com* for more information.)
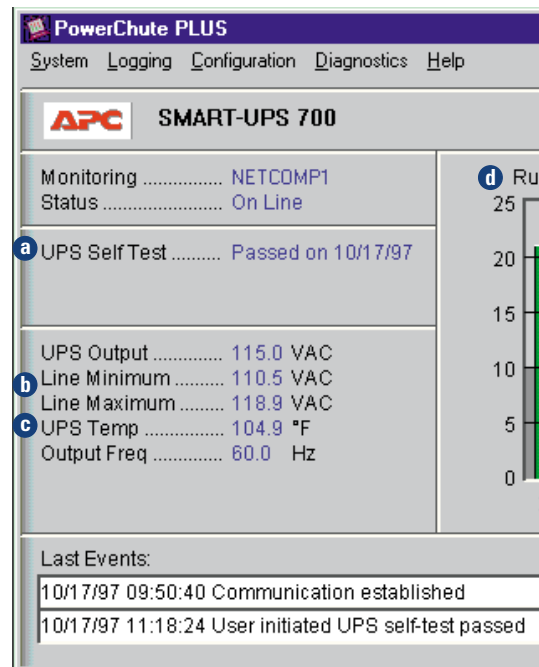
APC's PowerChute *plus* includes APC's PowerNet SNMP Agent (Windows NT and NetWare included with Smart-UPS) and also offers integration and compatibility with Compaq Insight Manager (Windows NT and NetWare only), IBM Netfinity and HP TopTools.

FlexEvents™ allow administrators to plan for and control crisis situations

FlexEvents allow users to customise the APC Smart-UPS reaction to all power events. For each possible power event the user has the option of choosing up to seven items from a list of possible UPS actions. Actions include: Log Event, Notify Administrator, Notify Users, Shut Down Server, Run Command File, Page, Send E-Mail. Customising UPS actions allows you to plan for and control crisis situations before they can cause downtime or threaten data.

Software configurable features

Customise the operation of an APC Smart-UPS to your environment and needs. With PowerChute plus software, as well as the PowerNet SNMP Adapter, you can adjust eleven operating parameters. Settings are stored in APC Smart-UPS's permanent memory (E-PROM). The following parameters are adjustable:

UPS ID
Users may assign any 8 character string to assist in UPS identification. For example, UPS ID may be server name or UPS location.

Low transfer
Low transfer voltage may be moved downward to extend brownout range, or upward to protect sensitive equipment.

High transfer
High transfer voltage may be moved lower to protect sensitive equipment, or higher to conserve battery during extended high line voltage conditions.

Sensitivity
Sensitivity to line noise may be adjusted for fuel powered AC generator applications.

Self test
APC Smart-UPS automatically performs a self-test every two weeks. This ensures a weakening battery will be detected before it's too late. Users can opt for weekly testing, testing at start up only, or no automatic self test.

Alarm
The audible alarm may be suppressed or delayed to eliminate nuisance alarms.

Shutdown delay
The delay between when the shutdown signal is sent from the CPU to UPS and when the UPS shuts down can be adjusted for special applications.

Return delay
Allows multiple APC Smart-UPS on the same power grid or circuit to stagger or sequence their return from shutdown once the utility line returns.

a **UPS self test**- Unattended scheduled self-tests warn of faulty UPS or weak battery.

b **Min./Max. power line voltage**- Useful in determining power quality.

c **UPS temperature***- Monitoring for proper UPS temperature to extend battery life.

d **Battery runtime**- Minutes of battery time left for system use and subsequent outages.

e **Utility line voltage**- Power quality display for fast problem diagnosis.

f **% UPS load**- Load capacity display to ensure correct UPS load.

*Not available on SU420INET/620INET models

Look across the LAN at any APC Smart-UPS from your keyboard and check important data such as UPS operation, power line status and environmental conditions using the real-time graphical display of UPS/power status.

SNMP compatibility for enterprise UPS power management

SNMP Ready for Servers

The APC Smart-UPS series supports the Simple Network Management Protocol (SNMP) via APC's PowerNet SNMP family of products. PowerNet SNMP products deliver warnings regarding power events and UPS status to any Network Management Station whether the UPS is located 20 feet or 2000 miles away.

APC's PowerNet SNMP Agent, included with PowerChute plus permits you to monitor and control the APC UPS's protecting servers along your entire network data path.

This same worldwide power management capability for Smart-UPS protecting servers or internetworking equipment is available via the Web/SNMP Management Card (sold separately.)

Low battery capacity

The low battery warning may be moved from 2 minutes up to 10 minutes before battery exhaustion. This allows plenty of time for safe shutdown of complex applications.

Minimum battery capacity

When utility line returns after a shutdown, Smart-UPS can ensure that the batteries first recharge to allow for subsequent safe shutdown for file servers and CPUs. For telecom or hub applications APC Smart-UPS can be set to reboot immediately.

Lotus Notes server shutdown is included with PowerChute plus for each platform Lotus Notes supports.
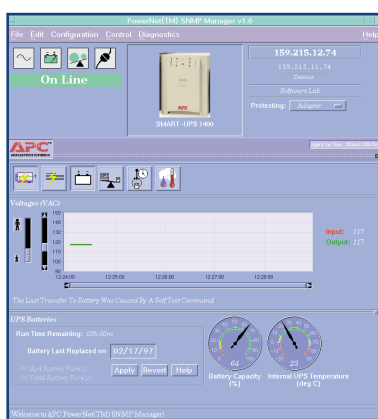
PowerNet® SNMP Manager maximises your management by presenting all UPS information in an intuitive graphical display. (Sold separately, Visit our website at www.apcc.com *for more information)*

All trademarks are the property of their owners

Smart-UPS® Wiring Devices and Hardware Accessories
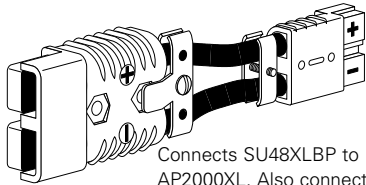
Part #SU032 **Rack-mount Rail Kit**
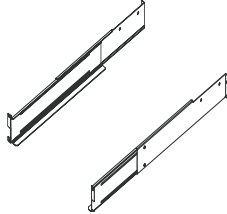
Included in SU3000RM, SU2200RM3U, SU3000RM3U and all RMXL products
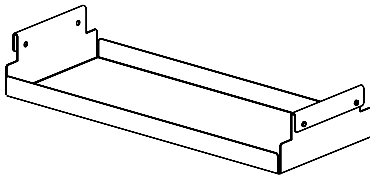
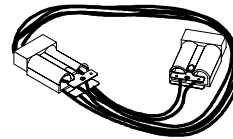**Part# SU037** **Cable Adapter**

Connects SU48XLBP to AP2000XL. Also connects AP2000XLBP to SU2200XL

Part #SU035 **Rack-mount Battery Shelf for SU48BP**

Extension Cables

The SU039, SU039-1 and SU039-2 are 122 cm battery extension cables for use with APC's 24 and 48 volt battery packs. In certain applications, customers require the ability to place their batteries outside of a rack or further away from the main unit than our standard cables allow. The extension cables allow customer the flexibility of placing the connected batteries a maximum of five feet or sixty inches away from their Smart-UPS unit.

Part#SU039: Cable, 122 cm Extension for SU48XLBP, SU48RMXLBP

Part#SU039-1: Cable, 122 cm Extension for SU48BP

Part#SU039-2: Cable, 122 cm Extension for SU24XLBP

PowerView™

Hand-held-control panel for network administrators that configures and controls UPSs in rack, computer room, and datacenter environments

Attach this hand-held device to a Smart-UPS, Matrix-UPS, or Symmetra Power Array to monitor and control the UPS from a distance of up to 15 feet. You operate the easy-to-use display with your fingertips as you select options from the device's menu-driven interface to control and monitor the connected UPS and its accessories. Functions include status reporting, setup, UPS control, and event logging. Four LED indicators report the operational status of the connected UPS, indicating whether it is on-line, on-battery, on-bypass, or experiencing an internal fault condition. (AP9215)

Global Service Programs

Quick-start plan

Highest level of service combines Start-up service and On-site support service, plus 7 x 24 telephone technical support with 1-hour response time.

Start-up service

- APC-certified quality engineer verifies proper wiring of APC hardware
- Power on and test APC hardware
- Attach appropriate loads to your APC UPS
- Includes all parts, internal batteries, labour, and travel expenses

On-site support service

- Next business day on-site repair service
- Power Plan extended warranty
- Includes all parts, internal batteries, labour and travel expenses
- Support can be upgraded to 7 x 24

Power Plan extended warranty

- Extends product's standard warranty by 1 or 3 years
- All parts and internal batteries are covered, all delivered to your site by next business day
- Standard telephone technical support coverage
- Technical support coverage can be upgraded to 7 x 24

All service programs are based on product "T" level - please refer to product specification pages for the correct "T" level of your product. For more information, visit *www.apcc.com/support* to access the Service Configurator and more program specifics.

Awards

APC has won more awards than all of our competitors combined.

| Award	Publication	Year
Editors Choice	Windows 2000 (Australia)	2000
Gold Award	Channels Asia (Asia)	1999
Platinum Award	PC Week Asia	1999
Best Personal UPS	Computerworld (Singapore)	1999
Best Workgroup UPS	Computerworld (Singapore)	1999
Best UPS brand with users	PC Week Survey (Thailand)	2000
Best UPS brand with organisations	PC Week Survey (Thailand)	2000
Best Buy	Computer Shopper (US)	1999
Best Buy 2200	Network Solutions (Korea and UK)	1999
Best Product of the Year	PC World (India)	1998
Best Security Hardware	Secure Computing Magazine (UK)	1998
Editor's Choice Award	LAN Times	1998
Editor's Choice Award	ComputerWorld	1998
Product of the Year, Power Protection Category	Networking Solutions	1998
Editor's Choice Award	Computer and Network	1998
The Choice of Info	Info Exame (Brazil)	1999
Editor's Choice Award	Computer Reseller News	1998
Editor's Choice Award	PC Expert (France)	1999

Windows 2000 Editor's Award 1999

'99 CHANNELS Asia VENDOR AWARDS
Channels' Choice for UPS Devices

COMPUTERWORLD ANNUAL AWARDS 1999

# Bring power management to your server management console

Reliable power management is critical to server availability. Today, UPS protection is more than just an insurance policy, it is an integral component of any network. Keeping this in mind, APC developed PowerChute *plus* to enhance the management Plug-ins of server UPSs directly from four major server management consoles.

Plug-ins are additional pieces of software that enhance the functionality of PowerChute *plus*. Advanced software allow you to customise PowerChute *plus* to meet the needs of and integrate with several powerful programs.

Network administrators simply don't have time to use four or five different tools to perform a single task, so APC PowerChute *plus* ensures complete integration of key UPS/power information with many server management packages. Users can quickly and easily determine UPS status, configure parameters, and even perform shutdown and reboot – all from within their server management consoles.*(Features vary by server management package)*
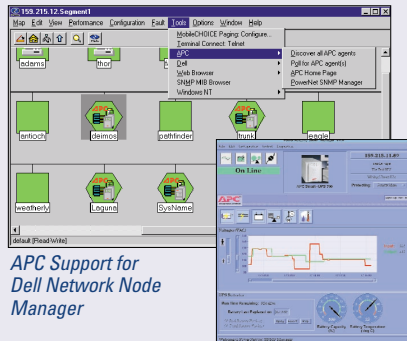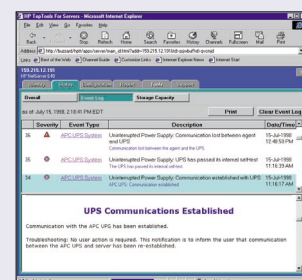

APC Support for Dell Network Node Manager

APC Support for Compaq Insight Manager
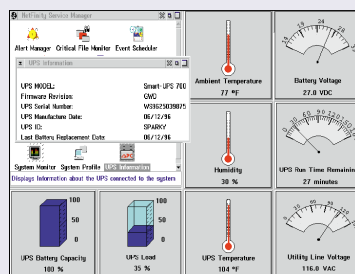
APC Support for IBM Netfinity Manager

APC Support for HP TopTools

NetShelter® offers a premium solution for a secure, managed network environment

Protecting today's network environment from power and environmental variables is essential to ensuring high system reliability. APC's NetShelter solution provides one-stop shopping to meet these needs for rack-mount server and internetworking equipment.

The NetShelter enclosure is a high-quality, free-standing cabinet that saves floor space, organises your equipment, eliminates cabling "rat's nests," and physically protects your investment. NetShelter 42U (AR1000, shown at left) provides 1867mm of vertical space for industry-standard 19 inch rack-mount equipment. Also available is the 22U NetShelter (AR1100), a quality solution designed for

remote branch locations that have space limitations for equipment. Providing 22U (978mm) of equipment space, this enclosure (standing only 1168mm high), will easily fit in almost any location within the datacenter.

APC has the NetShelter Configurator Software that allows you to easily configure your rack. You can download it from our website or call and we'll send it to you.

APC's award-winning Smart-UPS, power management software, and environmental monitoring accessories combine with the NetShelter enclosure to form an integrated solution ideal for a variety of network configurations.

APC
Legendary Reliability™